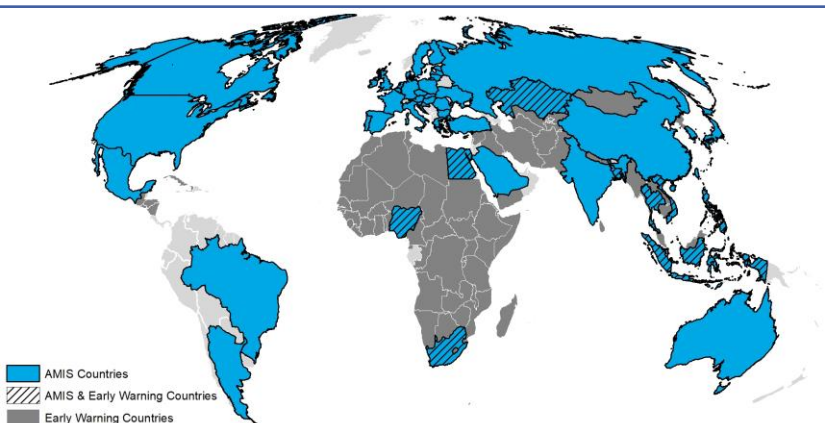
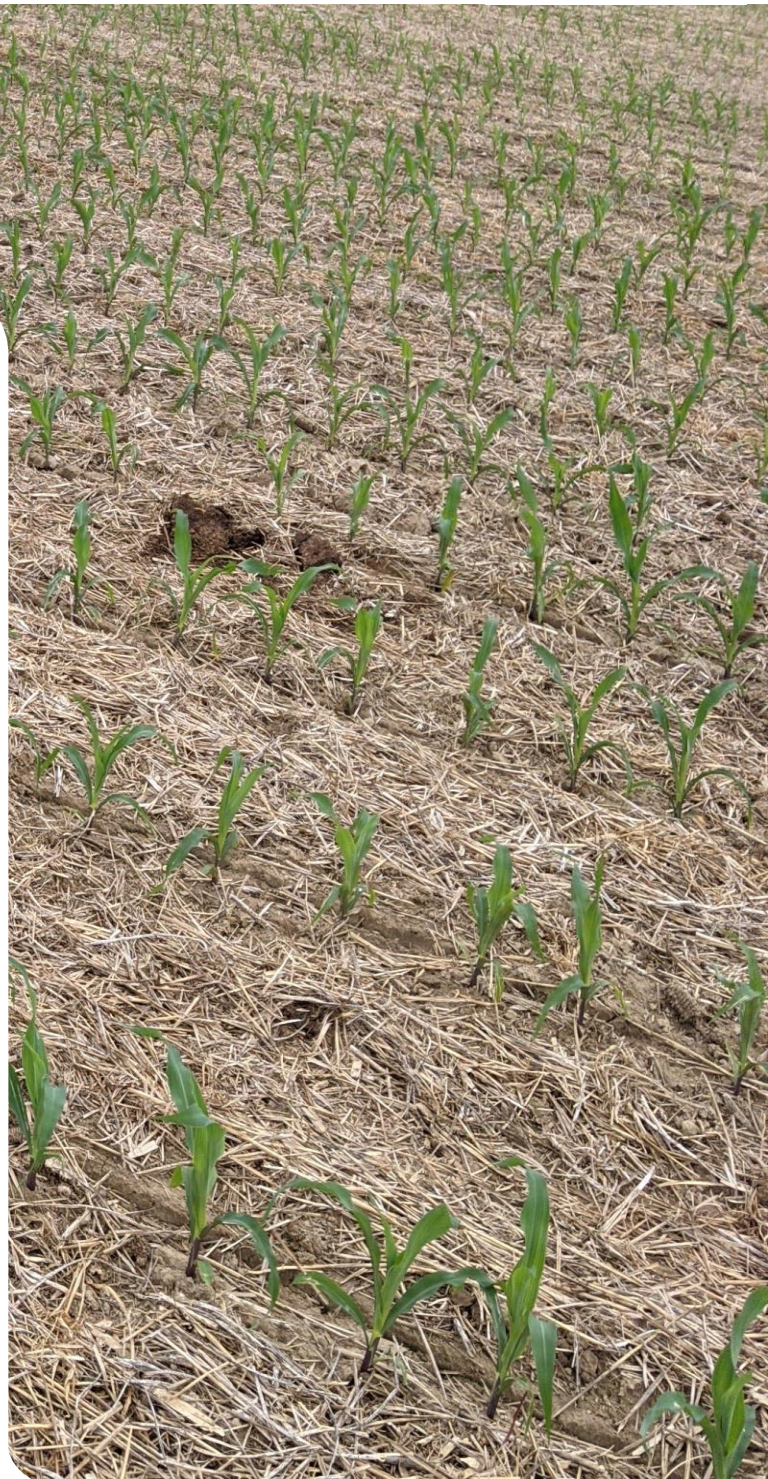




Crop Monitor for AMIS

Overview:

At the end of January, conditions are mixed for wheat, and soybeans, while favourable for maize and rice. Winter wheat harvest wraps up in Argentina under mixed conditions. Winter wheat in the northern hemisphere deals with some adverse weather in parts of Europe and North America. Maize conditions are generally favourable except for parts of the spring-planted crop (smaller season) in Brazil. Rice conditions are generally favourable, albeit with some delays in southern India for the *Rabi* season. Soybean conditions are mixed due to the impacts of earlier hot and dry weather in Brazil.

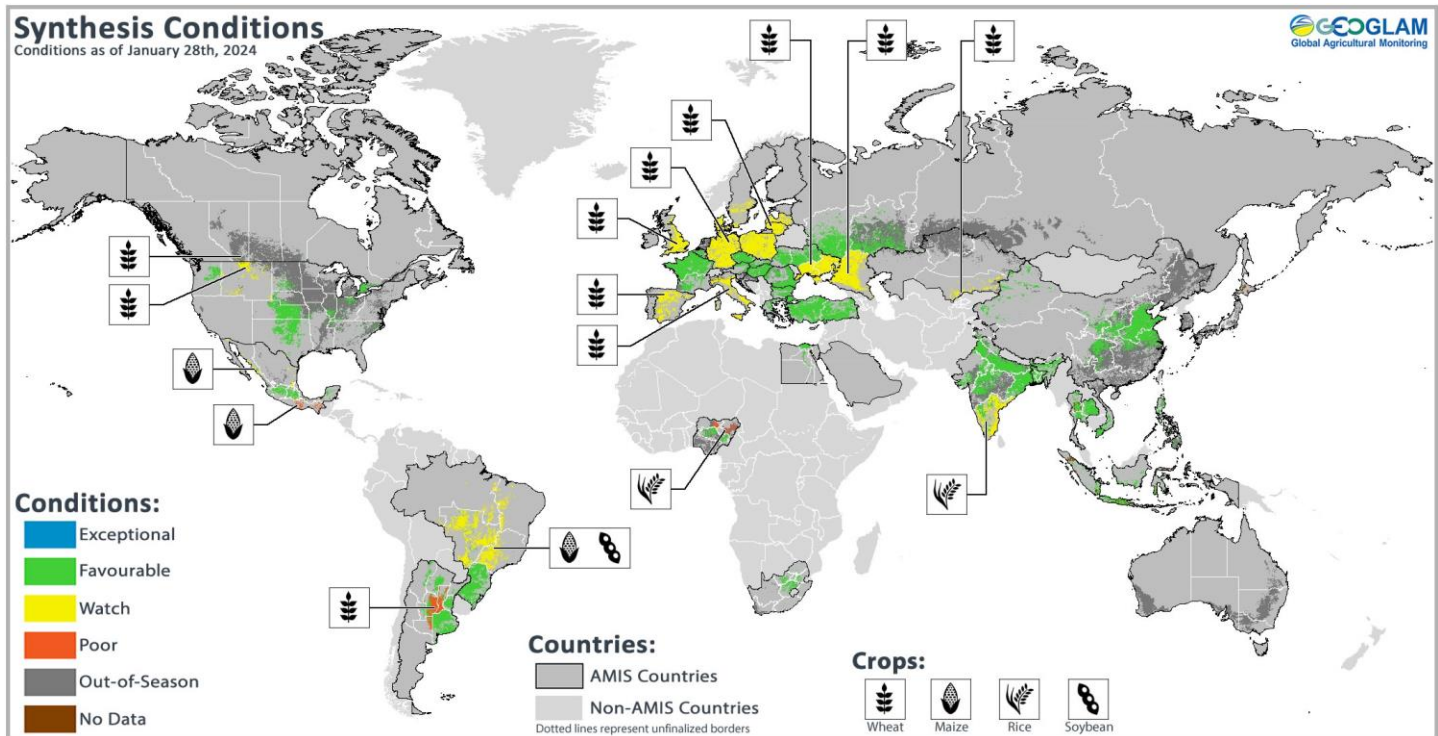


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Assessment based on information as of January 28th, 2024.

At a Glance Conditions (as of January 28th)



Global crop condition map synthesising information for all four AMIS crops as of January 28th. Crop conditions over the main growing areas for wheat, maize, rice, and soybean are based on a combination of national and regional crop analyst inputs along with earth observation data from all Crop Monitors. **Crops that are in other than favourable conditions are displayed on the map with their crop symbol.**

Crop Conditions at a Glance

Wheat – In the southern hemisphere, harvesting is wrapping up in Argentina. In the northern hemisphere, winter wheat is under mixed conditions in parts of Europe, the Black Sea region, the US, and Canada.

Maize – In the southern hemisphere, conditions are favourable in Argentina and South Africa while harvesting is beginning in Brazil for the spring-planted crop under mixed conditions. Conditions are favourable in India for the Rabi crop.

Forecasts at a Glance

Climate Influences – The ongoing strong El Niño event is forecast to weaken during the next several months. ENSO-neutral conditions are likely from April to June (73% chance), followed by a possible return to La Niña conditions later this year, with a 64% chance of a La Niña event by August to October 2024.

Argentina – Below-average precipitation is expected across the country over the next week followed by likely above-average precipitation the following week. Temperatures will likely be above-average over the next two weeks.

Rice – In India, transplanting of the Rabi crop continues. In Bangladesh, *Aus* season rice harvest is wrapping up as *Boro* season rice is sown. In Southeast Asia, wet-season rice is beginning in Indonesia as the sowing of dry-season rice ramps up in the northern countries.

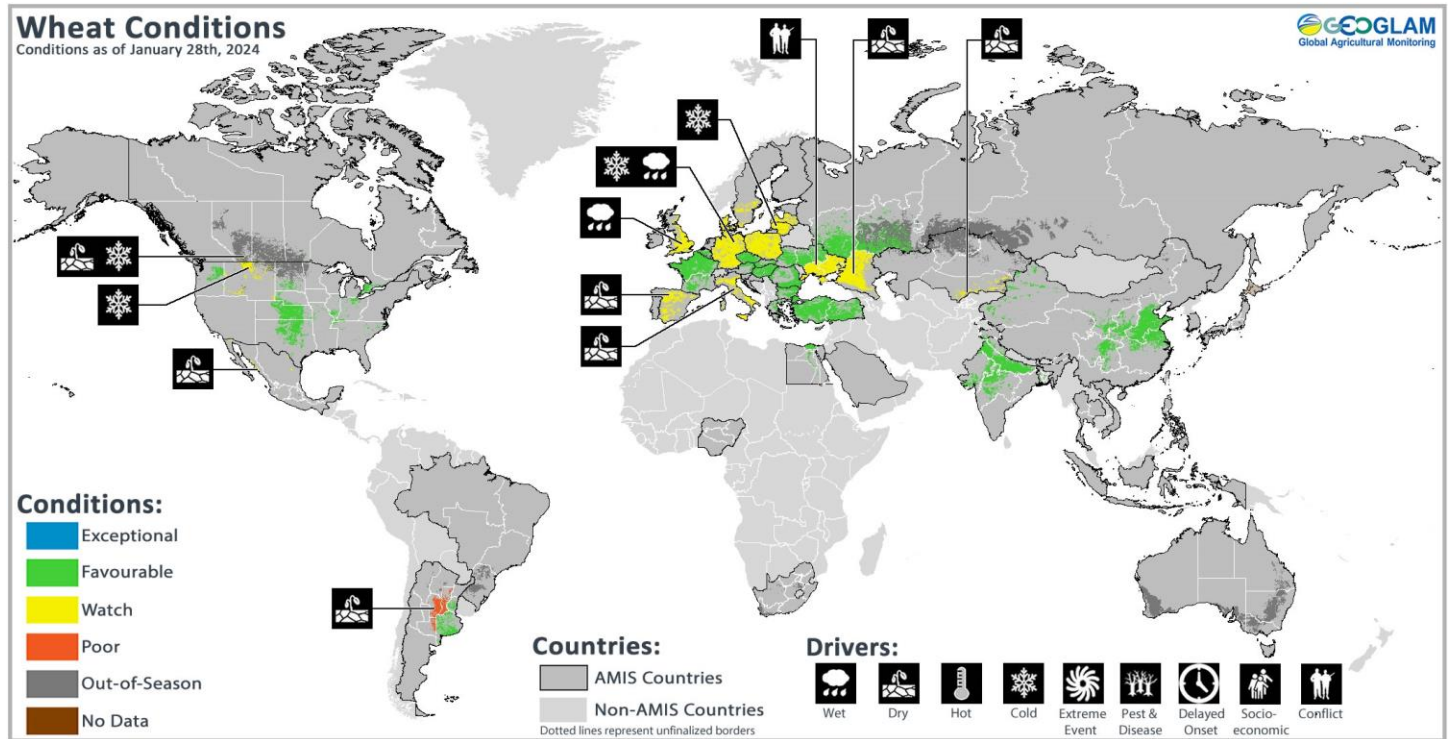
Soybeans – In the southern hemisphere, harvesting is beginning in Brazil under mixed conditions as sowing is wrapping up in Argentina under favourable conditions.

Brazil – The February forecast indicates a mix of above- and below-average precipitation across the country combined with likely above-average temperatures.

Mexico – During February and March, precipitation is likely to be below-average across most of the country while temperatures are likely to be above-average across most of the country.

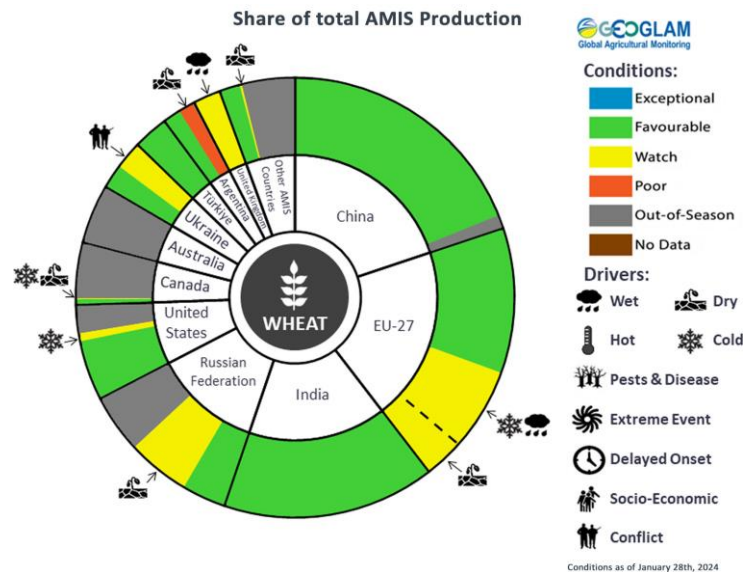
While the Crop Monitor for AMIS is primarily focused on documenting crop conditions based on environmental factors, the war in Ukraine and in other conflict areas will very likely negatively impact the ability of the crop to be harvested.

Wheat Conditions for AMIS Countries



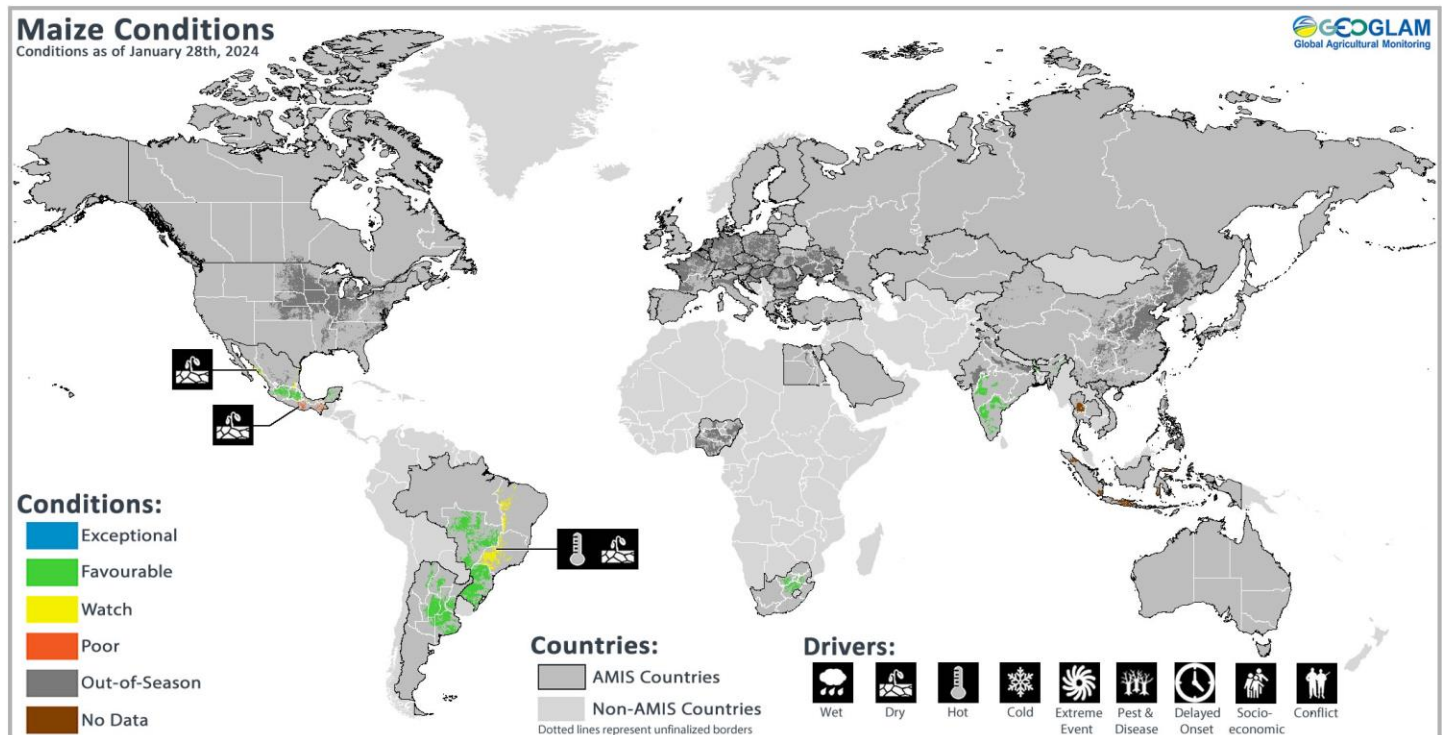
Wheat crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Crop condition information is based upon information as of January 28th. Where crops are in other than favourable conditions the climatic drivers responsible for those conditions are displayed. Crop Season Specific Maps can be found in Appendix 2.

Wheat: In **Argentina**, harvesting is wrapping up under mixed conditions due to the earlier severe drought that affected much of the country. In the **EU**, conditions are mixed due to a cold spell in the north, excessive rainfall in central Europe, and dryness along the Mediterranean. In the **UK**, conditions are mixed due to excessive rainfall. In **Türkiye**, conditions are favourable. In **Ukraine**, conditions are favourable away from the active warzone with adequate snow cover and an increase in soil moisture. In the **Russian Federation**, conditions are favourable as soil moisture improves due to ample precipitation, however, dry conditions remain in some areas of the Caucasus. In **China**, conditions are favourable with a boost to soil moisture reserves received in December. In **India**, sowing is wrapping up under favourable conditions with an increase in total sown area compared to last year. In the **US**, conditions are generally favourable albeit with recent extreme cold temperatures combined with little or no snow cover increasing the potential for winterkill in the Northern High Plains. There is a reduction in the total sown area compared to last year. In **Canada**, winter wheat conditions are favourable in the main producing provinces of Ontario and Manitoba, however, a lack of adequate snow cover combined with extremely low temperatures is potentially impacting crops in the Prairies.



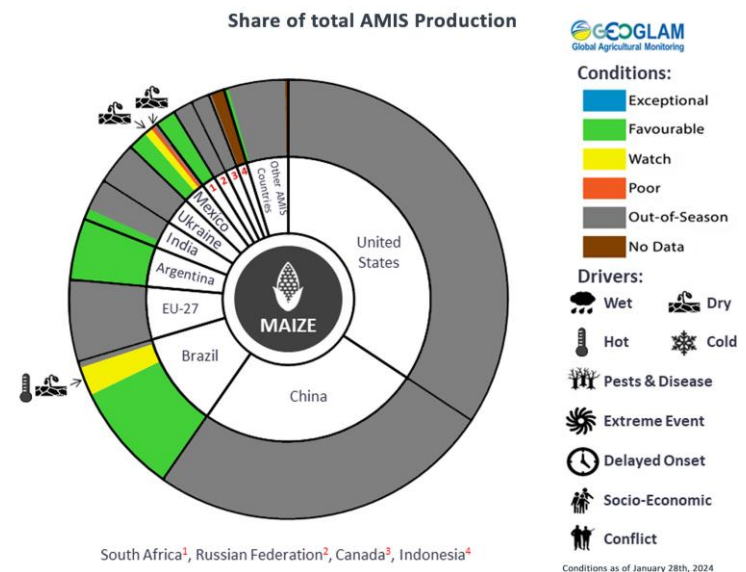
For detailed description of the pie chart please see box on page 6.

Maize Conditions for AMIS Countries



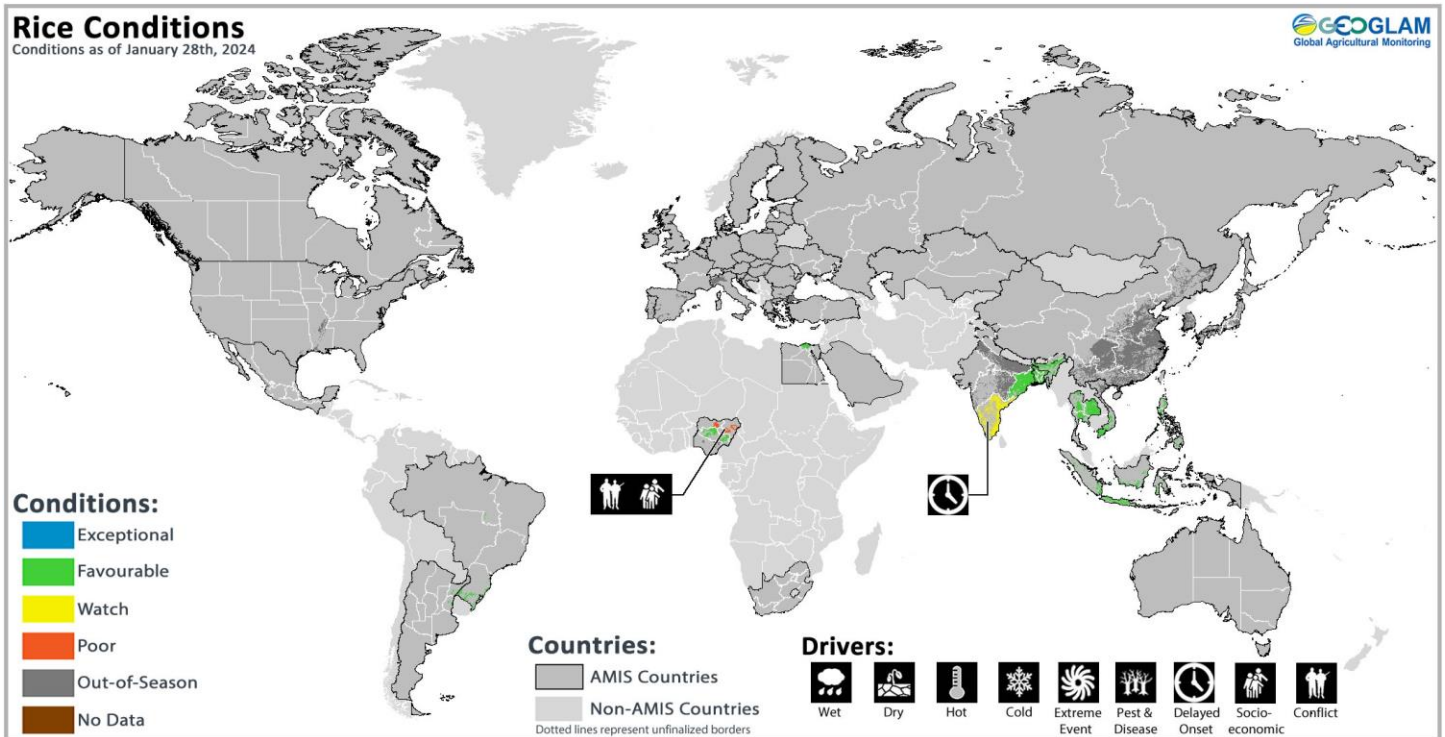
Maize crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Crop condition information is based upon information as of January 28th. Where crops are in other than favourable conditions the climatic drivers responsible for those conditions are displayed. Crop Season Specific Maps can be found in Appendix 2.

Maize: In **Brazil**, harvesting is beginning for the spring-planted crop (smaller season) under mixed conditions due to a lack of rain and high temperatures earlier in the season, however, a recent return of rains is expected to facilitate the recovery of the crop. A reduction in the total sown area is expected compared to last year. Sowing of the summer-planted crop (larger season) is beginning under favourable conditions. In **Argentina**, conditions are favourable for both the early-planted crop (larger season), which is in the flowering and grain-filling stage, and the late-planted crop (smaller season), which is in the early-vegetative stage. In **South Africa**, conditions are favourable following widespread rain since early December, however, temperatures and rainfall during February will be critical. In **Mexico**, harvesting is wrapping up for the Spring-Summer season (larger season) as the sowing of the Autumn-winter season (smaller season) continues under dry conditions. In **India**, the sowing of the *Rabi* crop is wrapping up under favourable conditions.



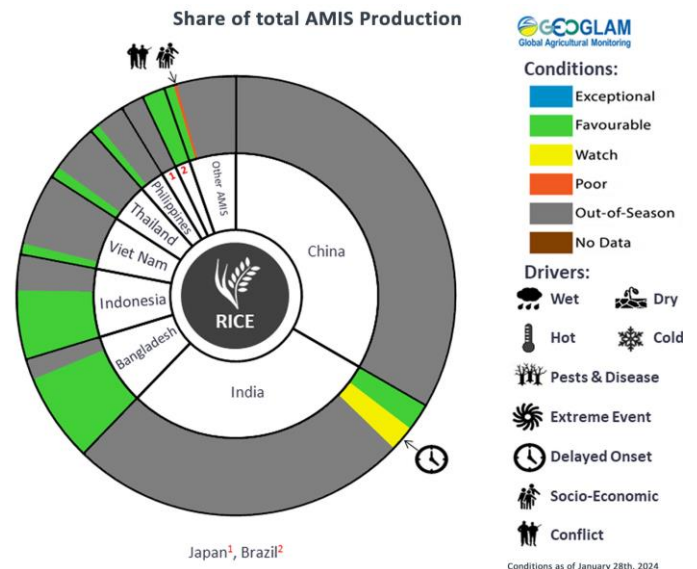
For detailed description of the pie chart please see box on page 6.

Rice Conditions for AMIS Countries



Rice crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Crop condition information is based upon information as of January 28th. Where crops are in other than favourable conditions the climatic drivers responsible for those conditions are displayed. Crop Season Specific Maps can be found in Appendix 2.

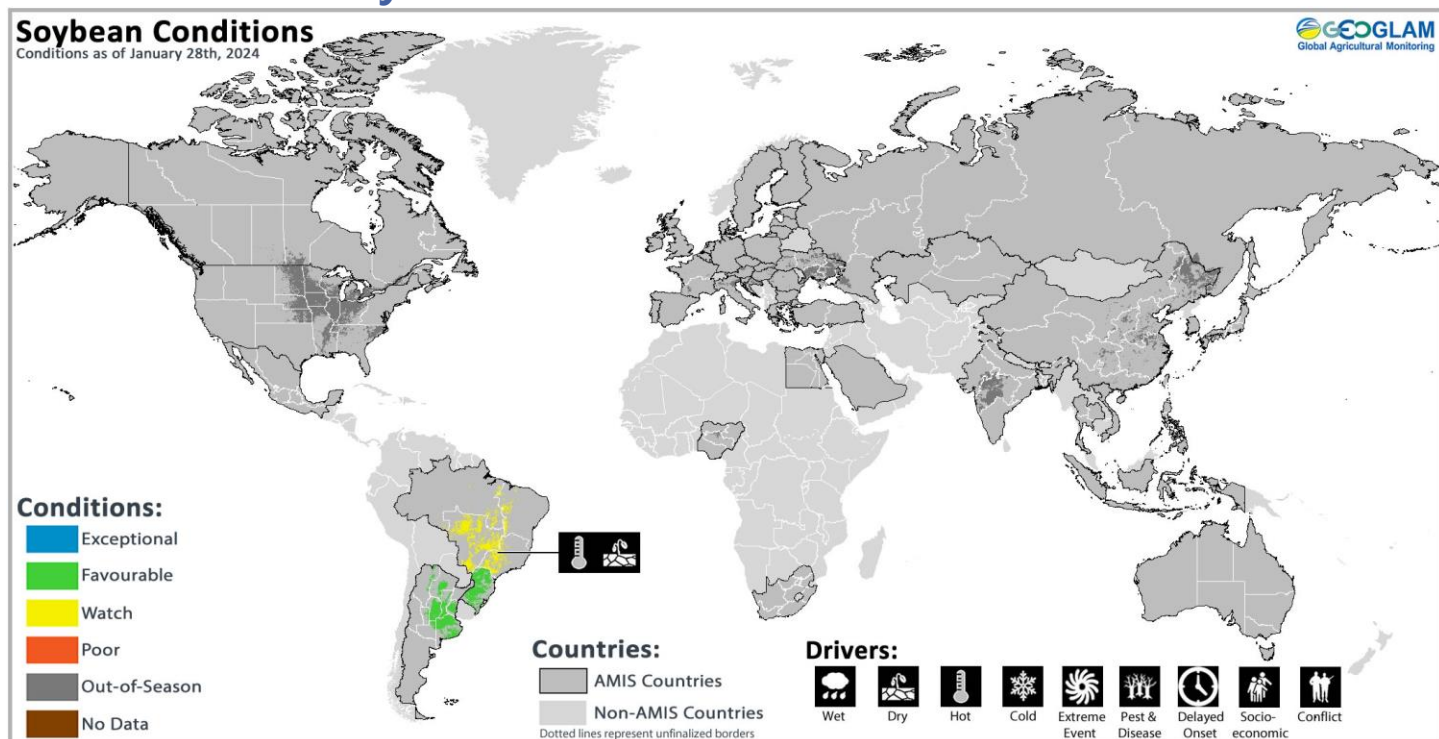
Rice: In **India**, transplanting of *Rabi* rice is ongoing under favourable conditions in the eastern states and with a delay in the southern states, especially in Karnataka due to lingering dryness from the previous season. In **Bangladesh**, conditions are favourable as both the harvesting of the *Aus* season rice (smallest season) and sowing of the *Boro* season rice (largest season) wrap up. In **Indonesia**, conditions are favourable as wet-season rice sowing continues and the harvesting of earlier sown crops begins. In **Viet Nam**, the sowing of dry-season rice (winter-spring rice) is beginning in the Mekong River Delta under favourable conditions. In **Thailand**, dry-season rice conditions have improved, although the dry weather during sowing is expected to result in a reduction in the total sown area compared to last year. In the **Philippines**, dry-season rice is under favourable conditions due to ample rainfall during sowing and support from the government with high-yield seeds. In **Brazil**, conditions are favourable with an increase in sown area compared to last year.



For detailed description of the pie chart please see box on page 6.

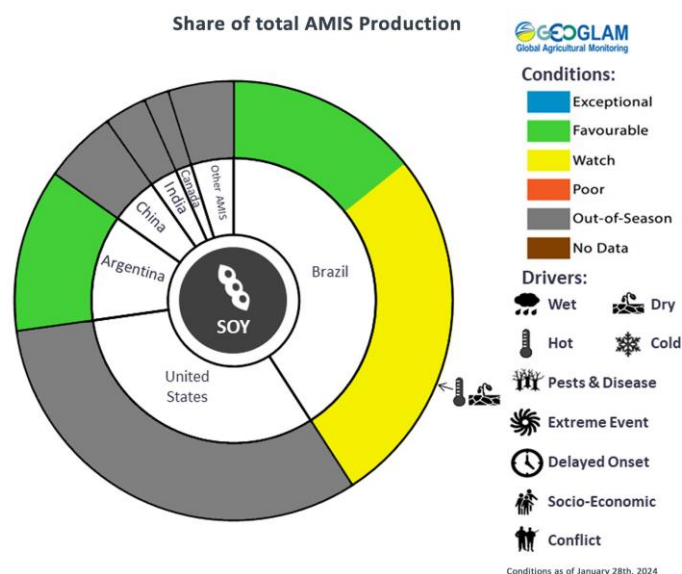
* Assessment based on information as of January 28th, 2024

Soybean Conditions for AMIS Countries



Soybean crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Crop condition information is based upon information as of January 28th. Where crops are in other than favourable conditions the climatic drivers responsible for those conditions are displayed. Crop Season Specific Maps can be found in Appendix 2.

Soybeans: In **Brazil**, as harvesting begins, conditions are mixed across most of the country due to a lack of rain and high temperatures from September to mid-December. However, regular rains have returned, and conditions are likely to improve before harvest. In the South, conditions are favourable despite excessive rainfall. In **Argentina**, sowing is wrapping up under favourable conditions across the country. The early-planting crop (typically larger season) is in the reproductive stages and the late-planted crop (typically smaller season) is emerging.



For detailed description of the pie chart please see box below.

Information on crop conditions in non-AMIS countries can be found in the [GEOGLAM Crop Monitor for Early Warning](#), published February 1st

Pie chart description: Each slice represents a country's share of total AMIS production (5-year average). Main producing countries (representing 95 percent of production) are shown individually, with the remaining 5 percent grouped into the "Other AMIS Countries" category. The proportion within each national slice is coloured according to the crop conditions within a specific growing area; grey indicates that the respective area is out of season. Sections within each slice are weighted by the sub-national production statistics (5-year average) of the respective country. The section within each national slice also accounts for multiple cropping seasons (i.e., spring and winter wheat). When conditions are other than 'favourable', icons are added that provide information on the key climatic drivers affecting conditions.

* Assessment based on information as of January 28th, 2024

Climate Influences: Strong El Niño Advisory and Intense Positive IOD

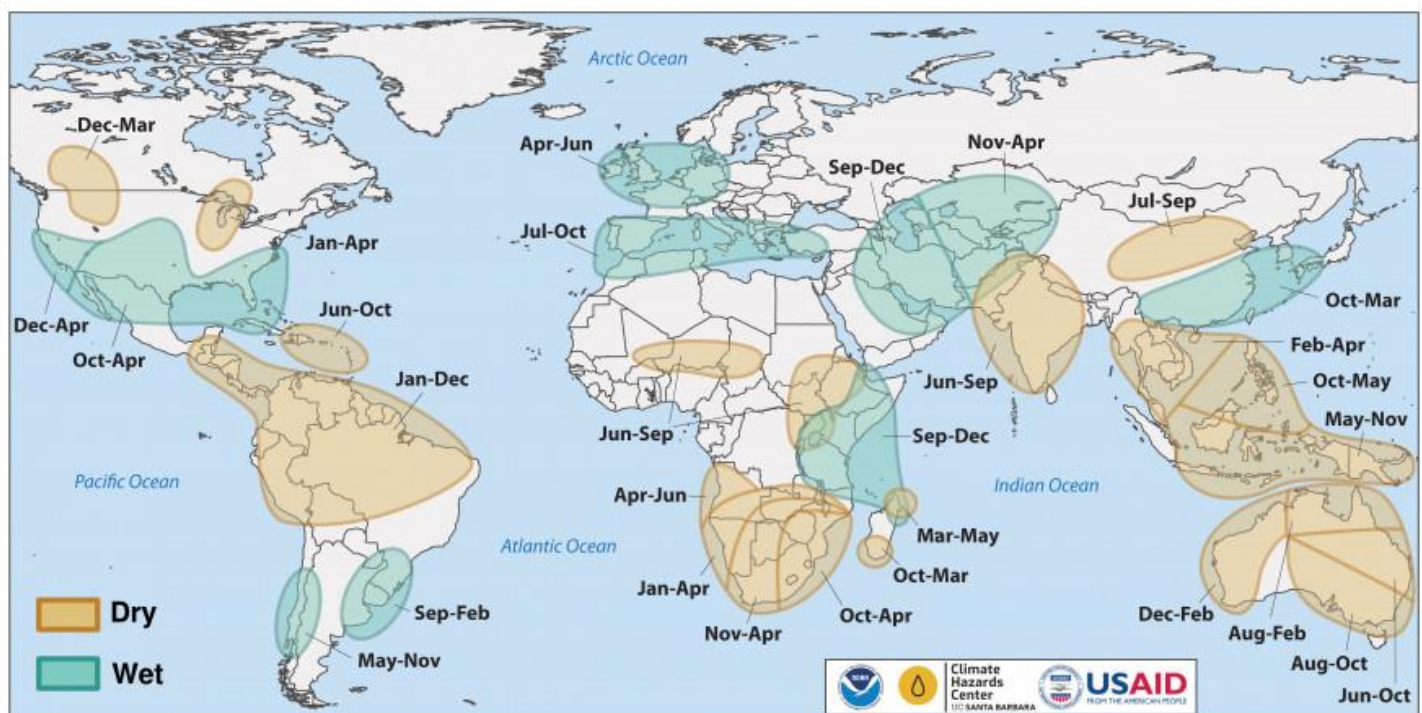
The ongoing strong El Niño event is forecast to weaken during the next several months. ENSO-neutral conditions are likely from April to June (73% chance). Long-range outlooks indicate a possible return to La Niña conditions later this year, with a 64% chance of a La Niña event by August to October 2024, based on the CPC/IRI forecast.

El Niño events tend to enhance precipitation in Central Asia, southern North America, south-eastern South America, and south-eastern China. Drier-than-average conditions tend to occur in northern South America, parts of the northern U.S. and Canada, Southern Africa, the Maritime Continent, and northern Australia.

Positive Indian Ocean Dipole (IOD) conditions continue to weaken and will likely return to neutral during February 2024.

Globally, 2023 was the warmest year on record, and the warming influence of El Niño will likely continue this upward trend into 2024. Warmer temperatures will exacerbate rainfall deficits due to higher evaporation.

Source: UCSB Climate Hazards Center



Location and timing of likely above- and below-average precipitation related to El Niño events. Based upon observed precipitation during 22 El Niño events since 1950, wet and dry correspond to a statistically significant increase in the frequency of precipitation in the upper and lower thirds of historical values, respectively. Statistical significance at the 95% level is based on the resampling of precipitation during neutral El Niño-Southern Oscillation conditions. Source: [FEWS NET & NOAA & CHC](#)

Global Two-week Forecast of Areas with Above or Below-Average Precipitation

The two-week forecast (Figure 1) indicates a likelihood of above-average precipitation over the southern Prairies in Canada, the Great Plains and Southwestern US, northwestern Mexico, Columbia, western Venezuela, northeast Brazil, north-central Europe, western Belarus, Ukraine, the Russian Federation, northwestern Kazakhstan, Türkiye, northern and western Ethiopia, southeastern South Sudan, Kenya, southern Somalia, Rwanda, Burundi, western Tanzania, western Angola, and southern China.

There is also a likelihood of below-average precipitation over western and eastern Canada, the Pacific Northwest and eastern US, southern Mexico, Guatemala, Honduras, Nicaragua, Costa Rica, northeast Venezuela, Guyana, Suriname, French Guiana, northern Brazil, southern Peru, central and southern Argentina, Portugal, Spain, Italy, Norway, Finland, Morocco, northern Algeria, Tunisia, Liberia, Côte d'Ivoire, Ghana, southern Togo, southern Benin, southern Nigeria, southern Cameroon, the Central Republic of Africa, northern Republic of Congo, northwest Democratic Republic of the Congo, southeast Angola, western Zambia, Zimbabwe, southern and central Mozambique, Botswana, Namibia, western South Africa, eastern Kazakhstan, Kyrgyzstan, Tajikistan, northern Afghanistan, northern Pakistan, northwest India, western and central China, the eastern Russian Federation, the Republic of Korea, central Thailand, and eastern Australia.

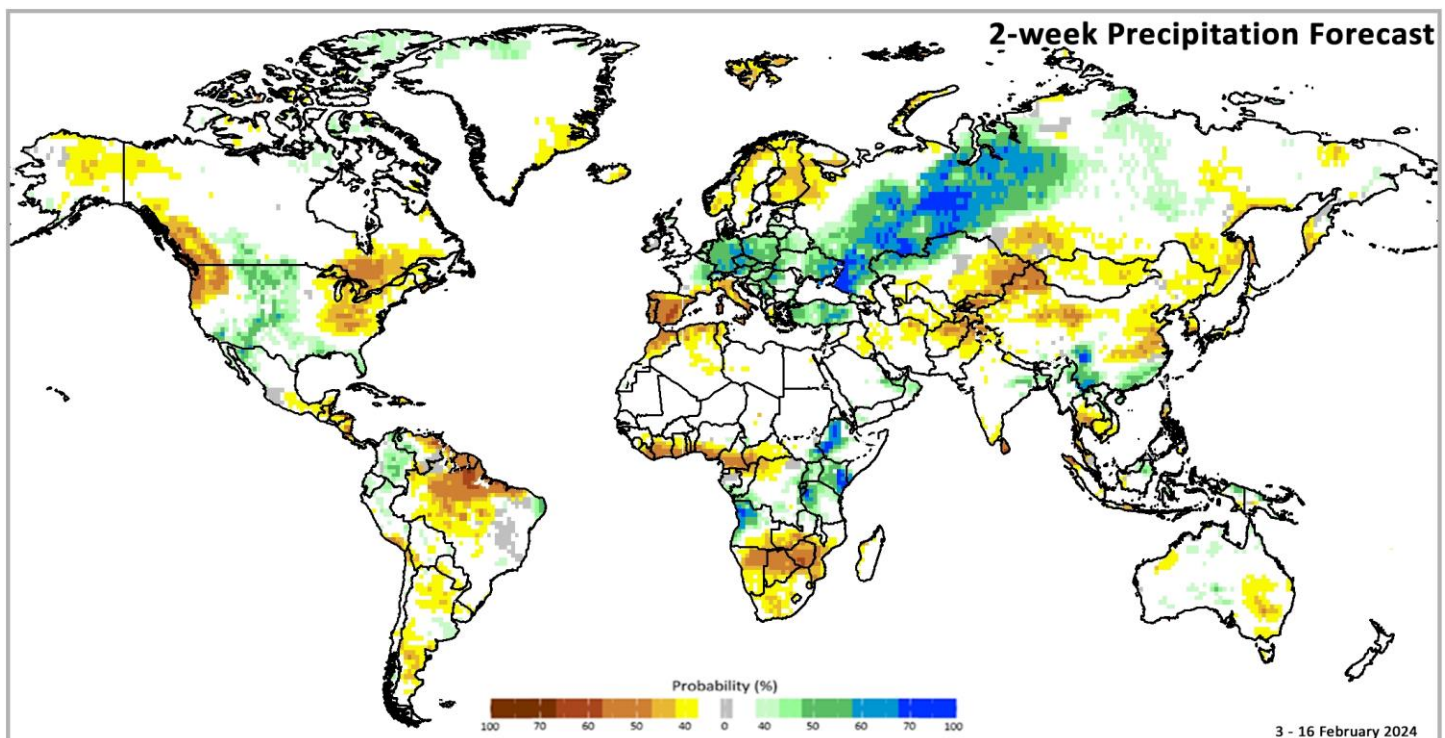


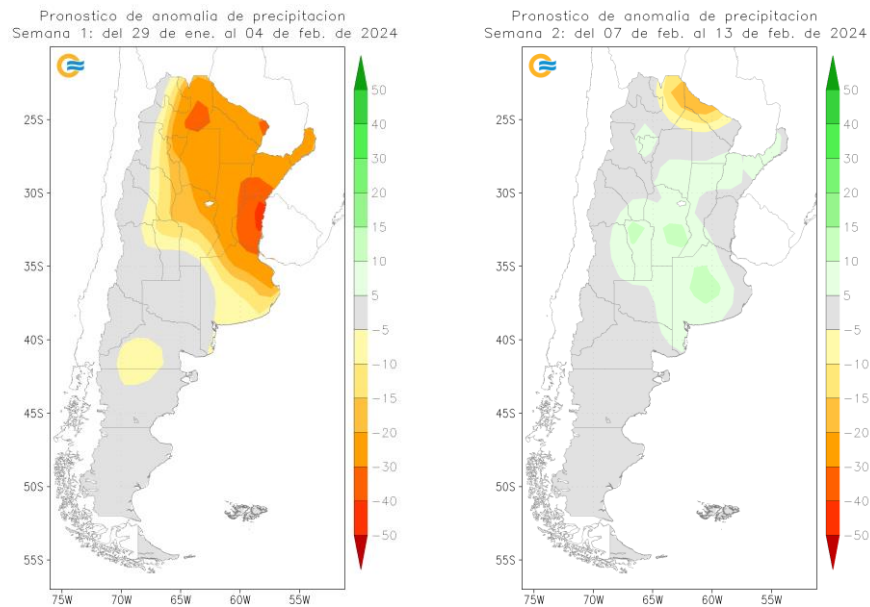
Figure 1: IRI SubX Precipitation Biweekly Probability Forecast for 3 – 16 February 2024, issued on 26 January 2024. The forecast is based on statistically calibrated tercile category forecasts from three SubX models. Source: [IRI Subseasonal Forecasts Maproom](#)

Argentina Outlook

The 31 January to 6 February precipitation anomaly forecast (left) indicates a likelihood of below-average rainfall over most agricultural areas, particularly along the border with Uruguay. During the same period, above-normal temperatures are expected across the country.

The 7 to 13 February precipitation anomaly forecast (right) shows above-average rainfall is expected across most central growing areas while below-average rainfall is likely in the far north. During the same period, above-average temperatures are expected across the country.

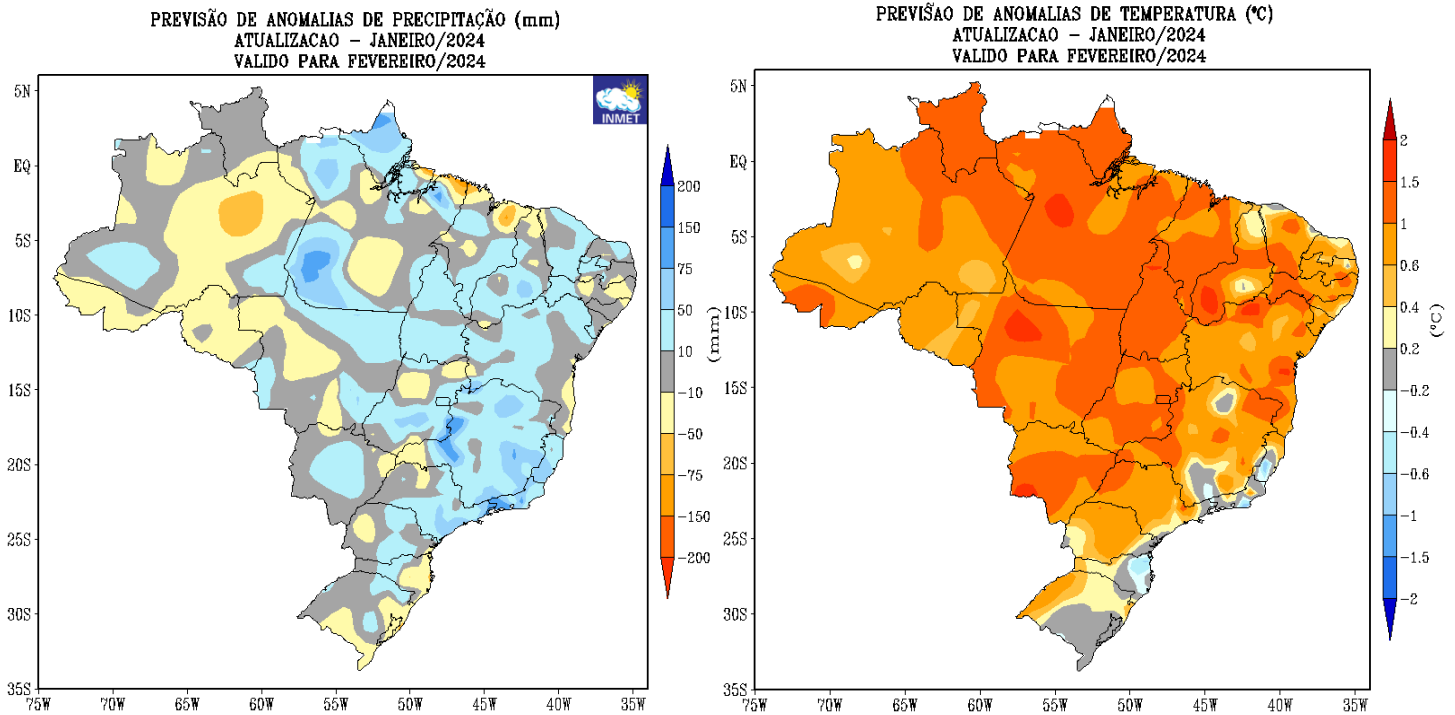
Precipitation Anomaly Forecasts



Left: 31 January to 6 February 2024 forecast precipitation anomaly in mm. **Right:** 7 to 13 February forecast precipitation anomaly in mm. Images from the [National Meteorological Service of Argentina](#).

Brazil Outlook

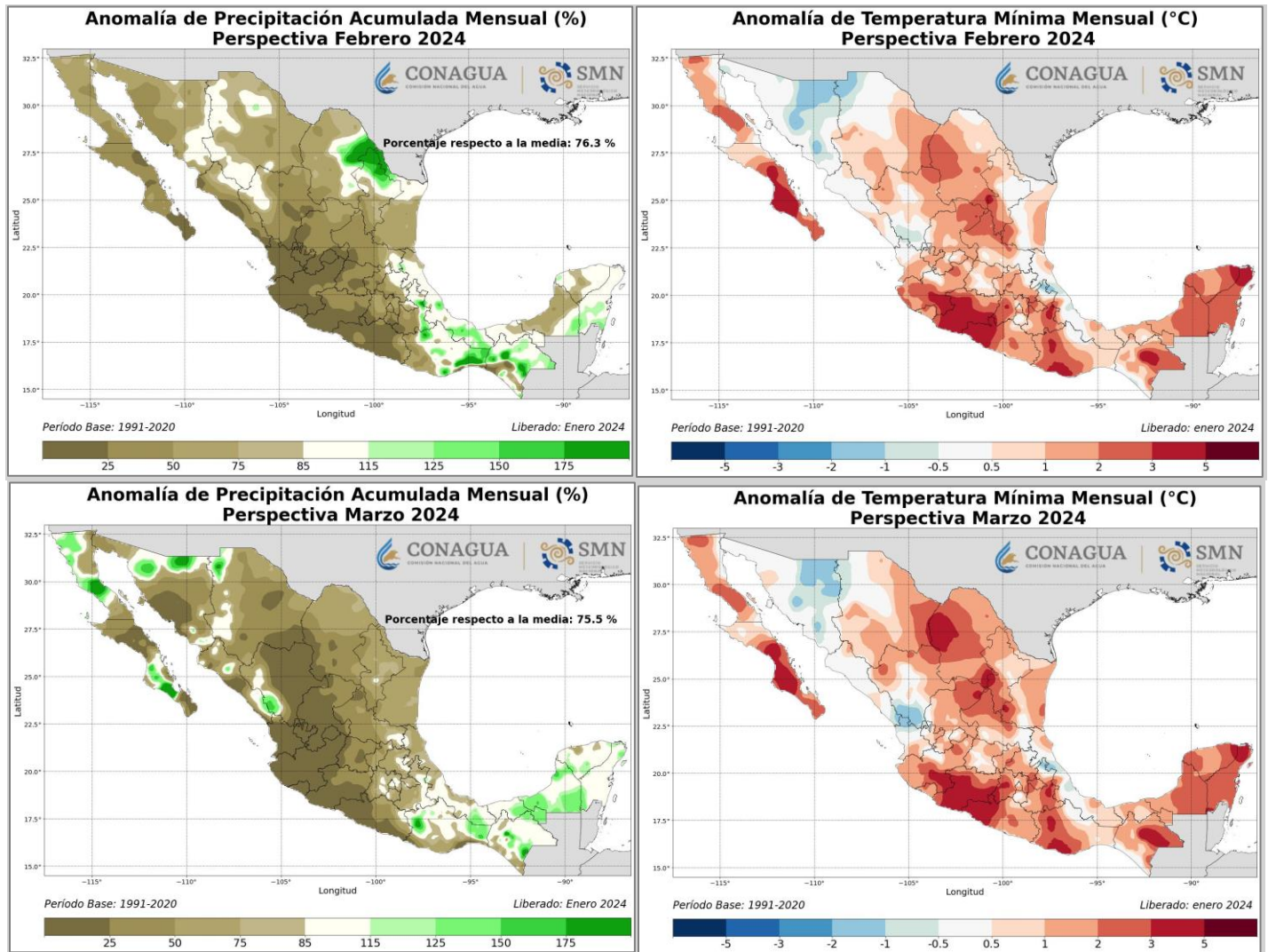
The February 2024 precipitation anomaly forecast (left) indicates a likelihood of above-average precipitation over the east and southeast regions with a mix of above-average and below-average rainfall over the southern, central, and northern regions, while below-average precipitation over the northwest regions. During the same time, temperatures are likely to be above average across most of the country except the coastal areas in the southeast and the southern regions.



Left: February 2024 precipitation anomaly forecast, issued in January 2024. **Right:** February 2024 temperature anomaly forecast, issued in January 2024. Images from the [National Institute of Meteorology](#)

Mexico Outlook

The February outlook indicates likely below-average precipitation across most of the country except for eastern Coahuila, northern Nuevo Leon, Veracruz, Oaxaca, Tabasco, Chiapas, and Quintana Roo. During the same time, temperatures are likely to be above-average across most of the country except for in Sonora, and northern Chihuahua. During March, the outlook indicates a similar pattern of below-average precipitation across most of the country and accompanying above-average temperatures.



Upper Left: February precipitation anomaly issued January 2024. **Upper Right:** February temperature anomaly issued January 2024. **Lower Left:** March precipitation anomaly issued January 2024. **Lower Right:** March temperature anomaly issued January 2024. Maps from Mexico's [National Meteorological Service \(SMN\)](#).

Appendix 1: Terminology & Definitions

Crop Conditions:

Exceptional: Conditions are much better than average* at the time of reporting. This label is only used during the grain-filling through harvest stages.

Favourable: Conditions range from slightly lower to slightly better than average* at reporting time.

Watch: Conditions are close to average* but there is a potential risk to final production. The crop can still recover to average or near average conditions if the ground situation improves. This label is only used during the planting-early vegetative and the vegetative-reproductive stages.

Poor: Crop conditions are well below average*. Crop yields are likely to be more than 5% below average. This is only used when conditions are not likely to be able to recover, and an impact on production is likely.

Out of Season: Crops are not currently planted or in development during this time.

No Data: No reliable source of data is available at this time.

*" Average" refers to the average conditions over the past 5 years.

Conditions:

-  Exceptional
-  Favourable
-  Watch
-  Poor
-  Out-of-Season
-  No Data

Drivers:

These represent the key climatic drivers that are having an impact on crop condition status. They result in production impacts and can function as either positive or negative drivers of crop conditions.

Wet: Wetter than average (includes water logging and floods).

Dry: Drier than average.

Hot: Hotter than average.

Cool: Cooler than average or risk of frost damage.

Extreme Events: Catch-all for all other climate risks (i.e., hurricane, typhoon, frost, hail, winter kill, wind damage, etc.). When this category is used, the analyst will also specify the type of extreme event in the text.

Delayed-Onset: Late start of the season.

-  Wet
-  Dry
-  Hot
-  Cool
-  Extreme Event
-  Delayed-Onset

Crop Season Nomenclature:

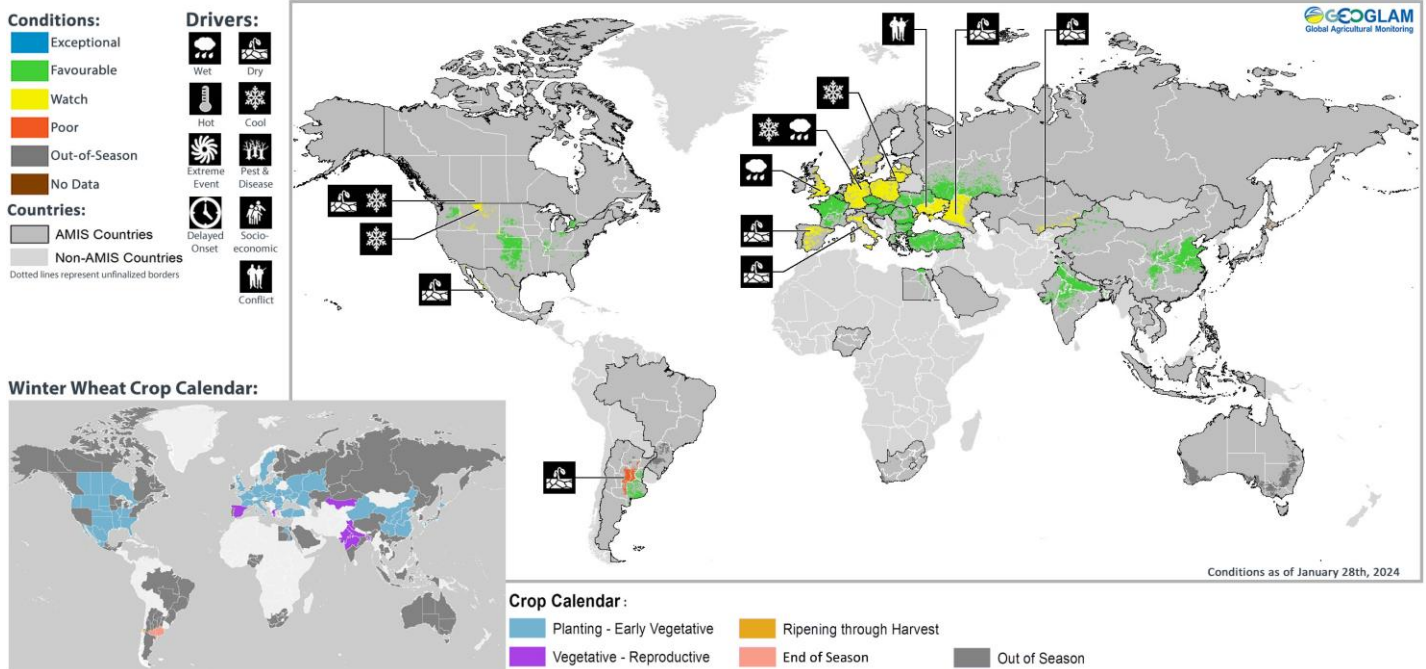
In countries that contain multiple cropping seasons for the same crop, the following chart identifies the national season name associated with each crop season within the Crop Monitor. Within the Crop Monitor for AMIS countries, the larger producing season (based upon the most recent 5-years of statistics) has been assigned to the first season.

Crop Season Nomenclature				
Country	Crop	Season 1 Name	Season 2 Name	Season 3 Name
Argentina	Maize	Spring-planted	Summer-planted	
Argentina	Soybean	Spring-planted	Summer-planted	
Bangladesh	Maize	Winter	Summer	
Bangladesh	Rice	Boro	Aman	Aus
Brazil	Maize	Summer-planted	Spring-planted	
Canada	Wheat	Spring Wheat	Winter Wheat	
China	Wheat	Winter Wheat	Spring Wheat	
China	Maize	Spring-planted	Summer-planted	
China	Rice	Intermediate Crop	Early Crop	Late Crop
Egypt	Rice	Summer-planted	Nili season (Nile Flood)	
India	Maize	Kharif	Rabi	
India	Rice	Kharif	Rabi	
Indonesia	Maize	Dry-season	Rainy-Season	
Indonesia	Rice	Main-season	Second-season	
Kazakhstan	Wheat	Spring Wheat	Winter Wheat	
Mexico	Maize	Spring-planted	Autumn-planted	
Mexico	Wheat	Winter Wheat	Spring Wheat	
Nigeria	Maize	Main-season	Short-season	
Nigeria	Rice	Main-season	Off-season	
Philippines	Rice	Wet season	Dry season	
Russian Federation	Wheat	Winter Wheat	Spring Wheat	
Thailand	Rice	Wet season	Dry season	
United States	Wheat	Winter Wheat	Spring Wheat	
Viet Nam	Rice	Wet season	Dry season	

* Assessment based on information as of January 28th, 2024

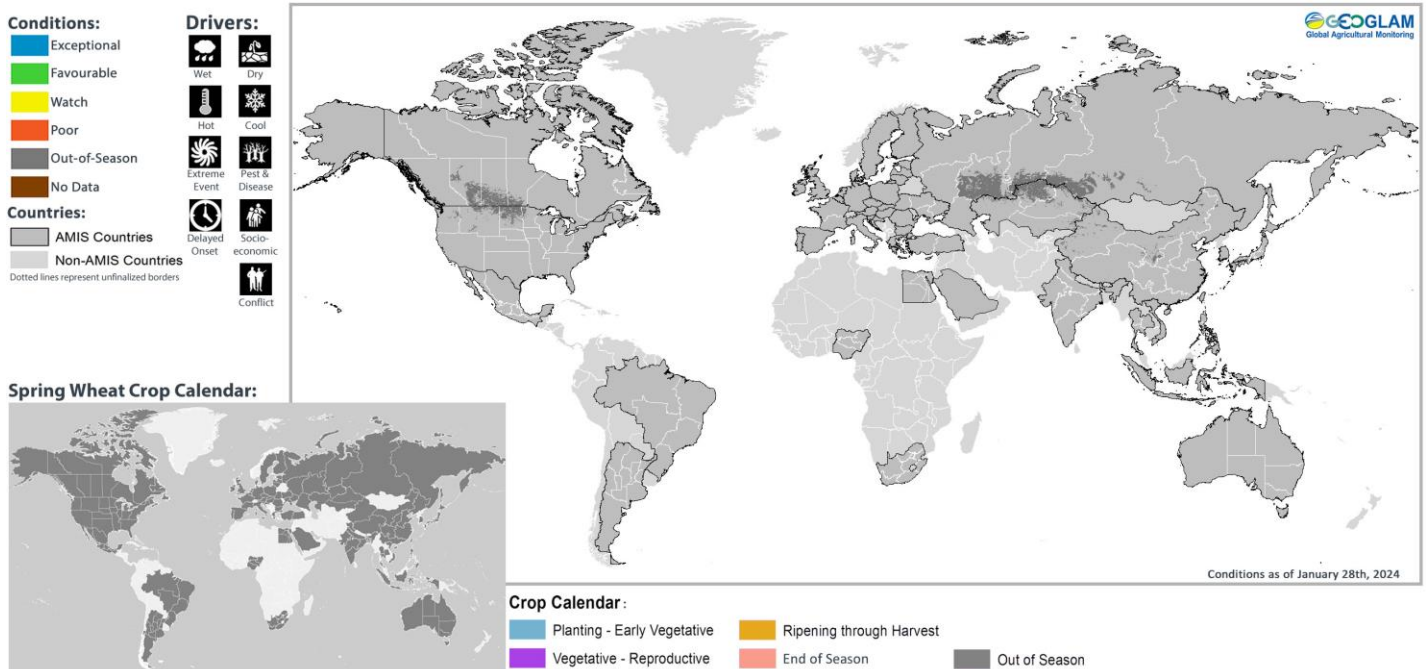
Appendix 2: Crop Season-Specific Maps

Winter Planted Wheat Conditions for AMIS Countries



Winter wheat crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Crop condition information is based upon information as of January 28th. Where crops are in less than favourable conditions the climatic drivers responsible for those conditions are displayed. The crop calendar is provided as a point of reference to provide information on what part of the life cycle the crops are currently in for each area.

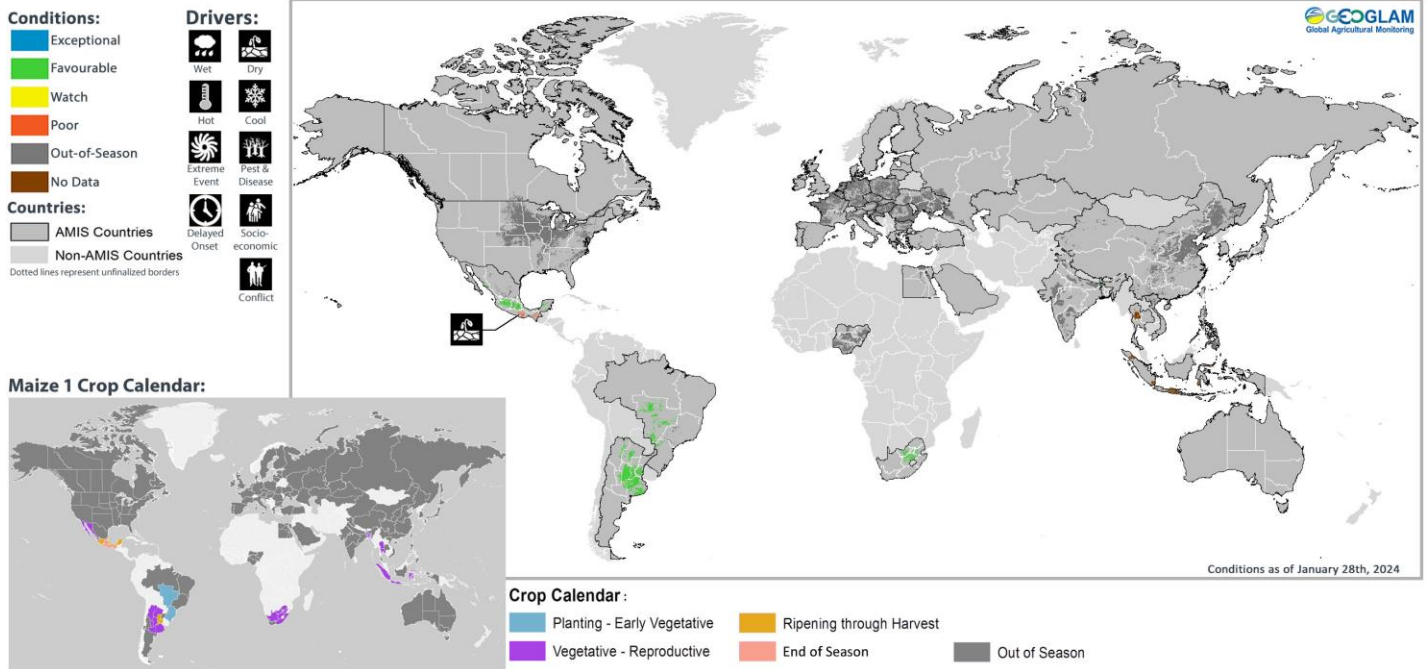
Spring Planted Wheat Conditions for AMIS Countries



Spring wheat crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Crop condition information is based upon information as of January 28th. Where crops are in less than favourable conditions the climatic drivers responsible for those conditions are displayed. The crop calendar is provided as a point of reference to provide information on what part of the life cycle the crops are currently in for each area.

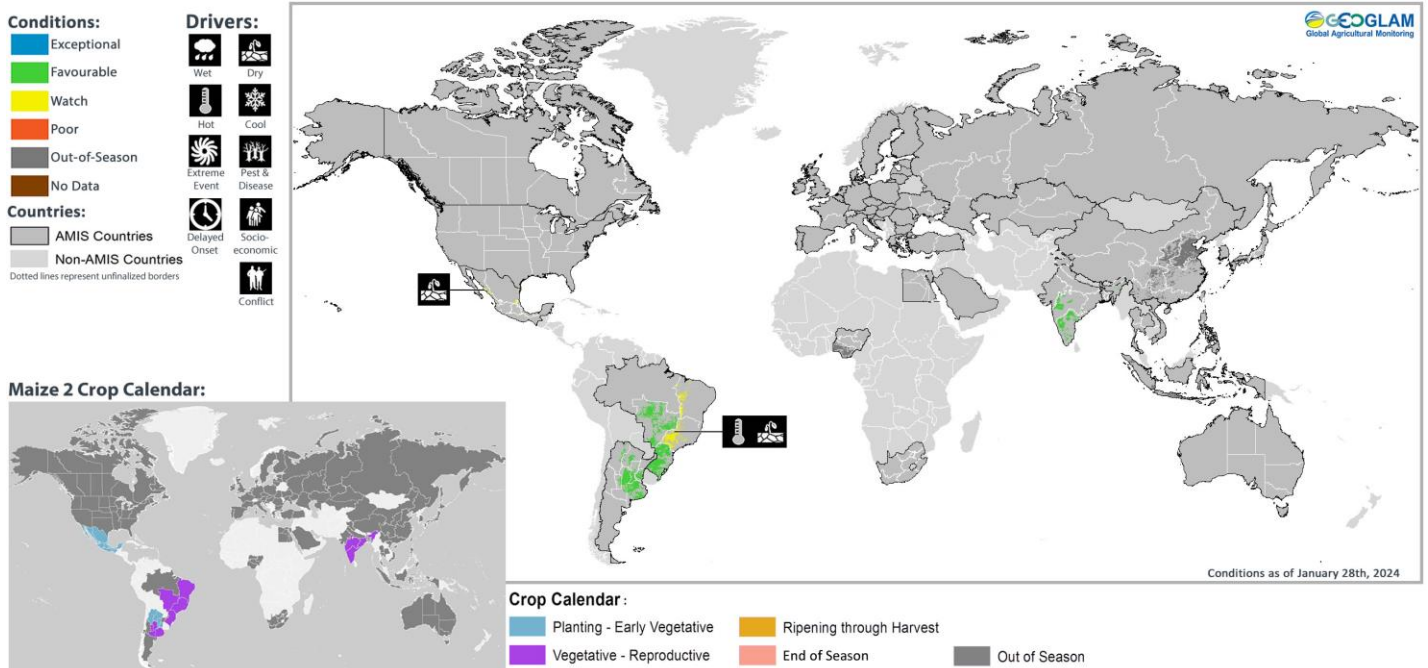
* Assessment based on information as of January 28th, 2024

Maize 1 Conditions for AMIS Countries



Maize 1 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Crop condition information is based upon information as of January 28th. Where crops are in less than favourable conditions the climatic drivers responsible for those conditions are displayed. The crop calendar is provided as a point of reference to provide information on what part of the life cycle the crops are currently in for each area.

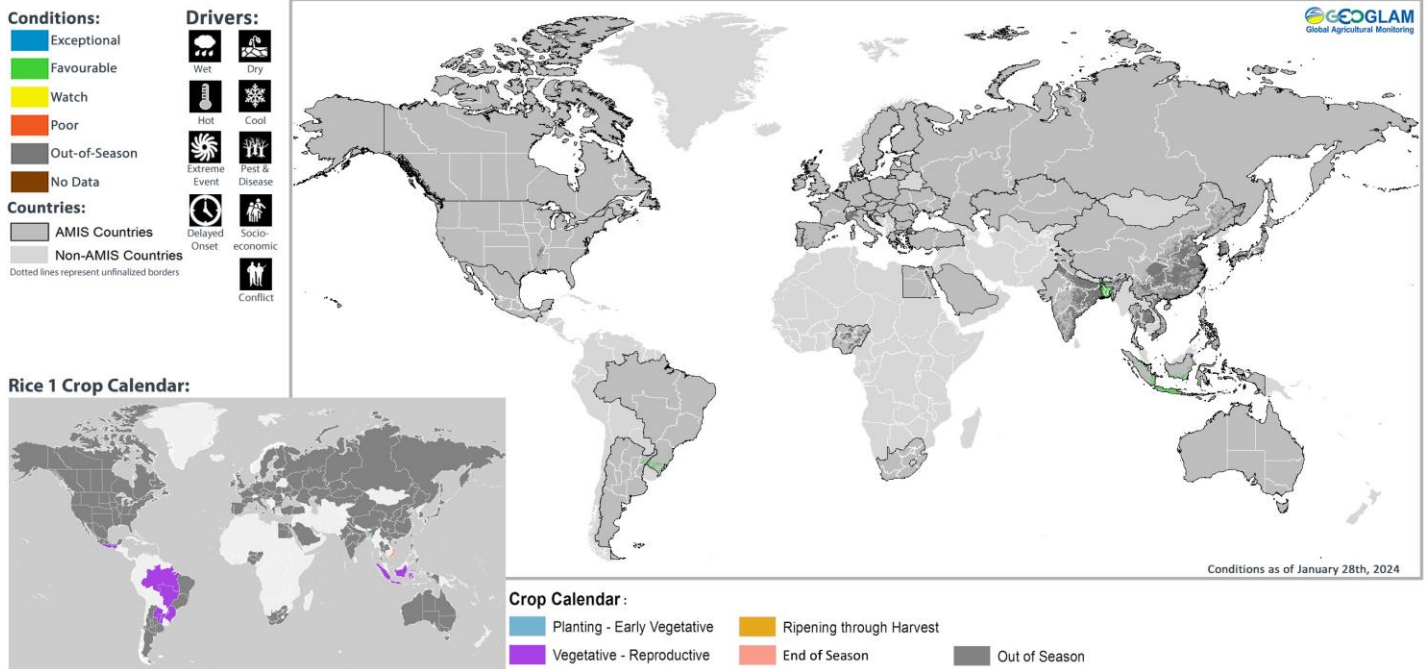
Maize 2 Conditions for AMIS Countries



Maize 2 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Crop condition information is based upon information as of January 28th. Where crops are in less than favourable conditions the climatic drivers responsible for those conditions are displayed. The crop calendar is provided as a point of reference to provide information on what part of the life cycle the crops are currently in for each area.

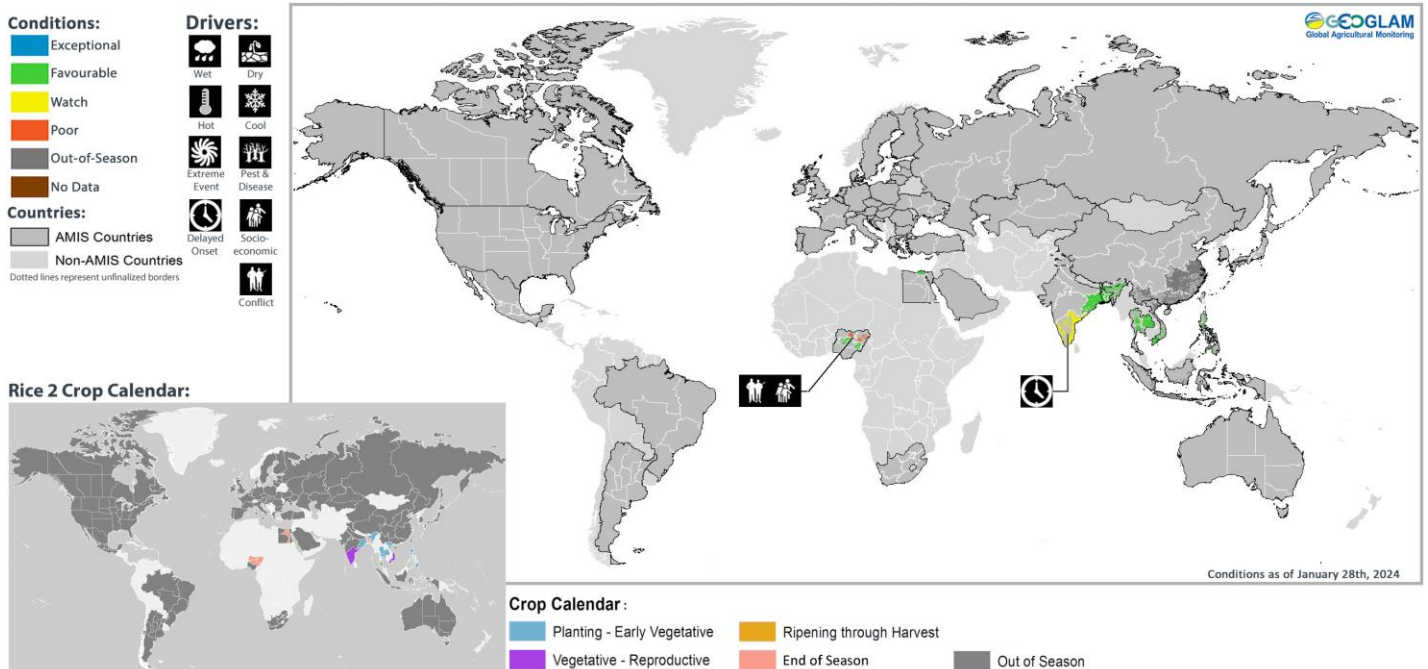
* Assessment based on information as of January 28th, 2024

Rice 1 Conditions for AMIS Countries



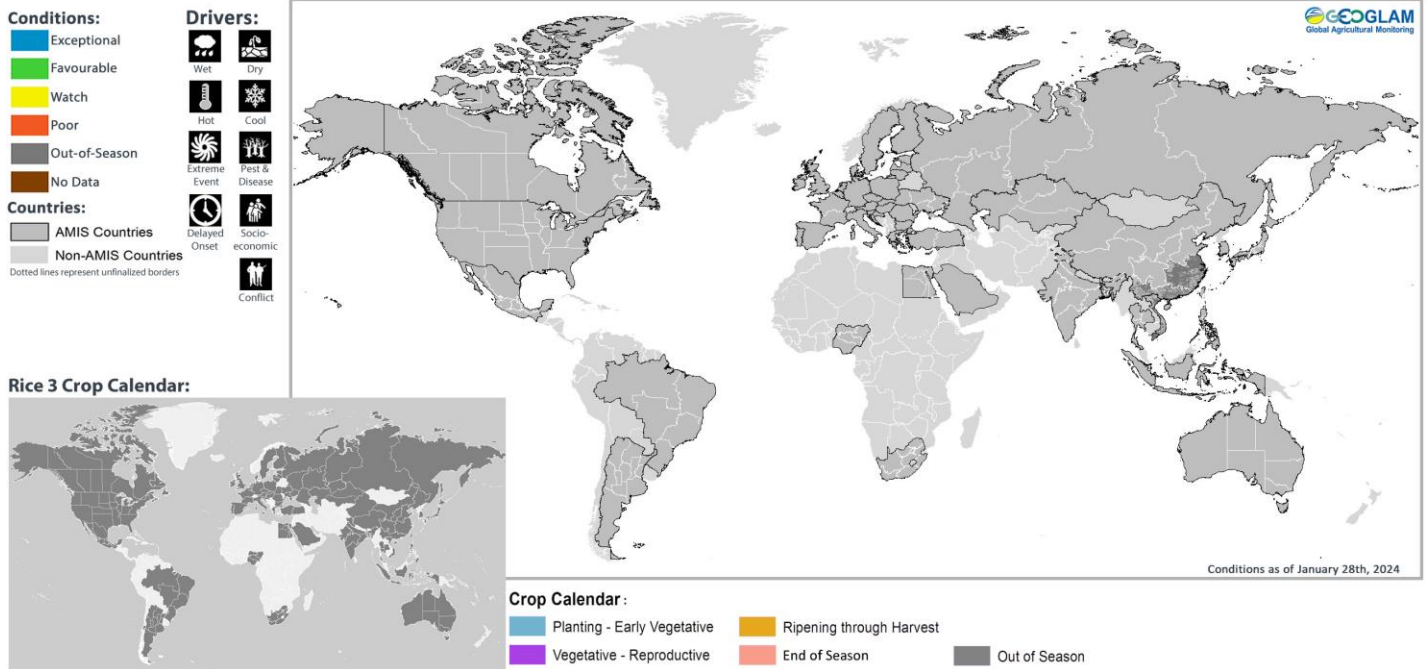
Rice 1 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Crop condition information is based upon information as of January 28th. Where crops are in less than favourable conditions the climatic drivers responsible for those conditions are displayed. The crop calendar is provided as a point of reference to provide information on what part of the life cycle the crops are currently in for each area.

Rice 2 Conditions for AMIS Countries



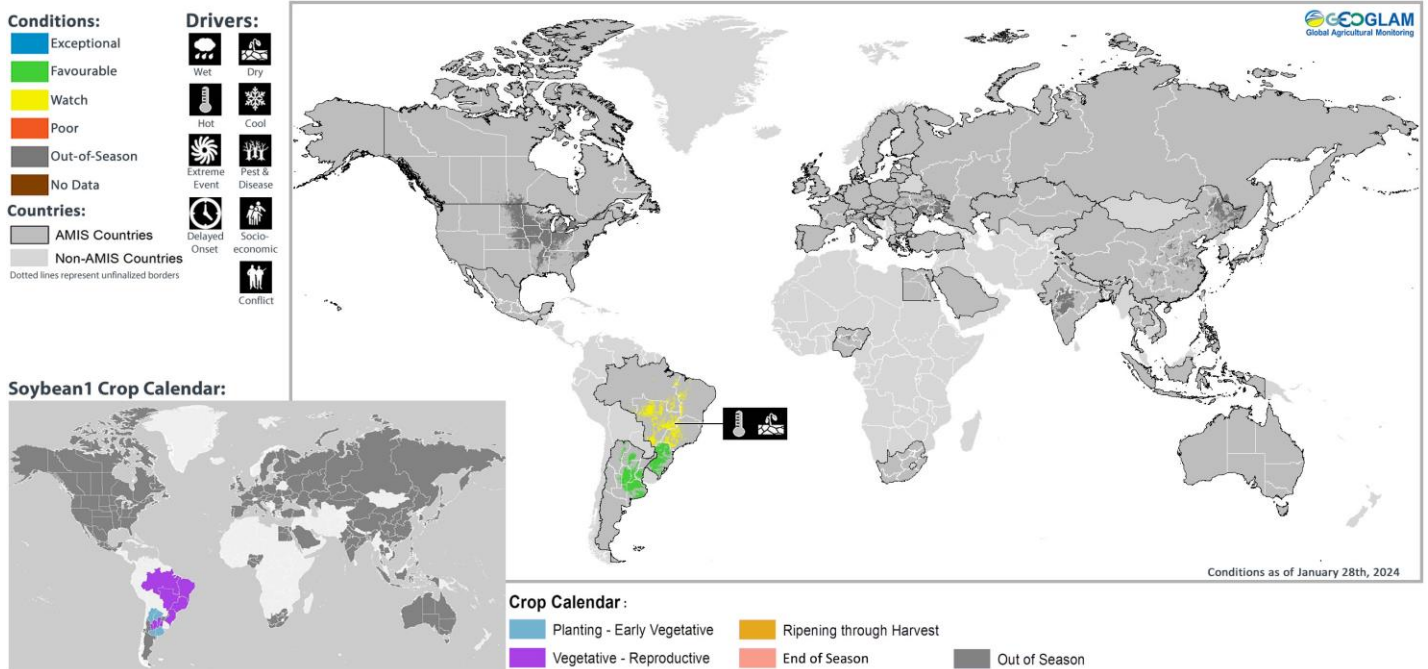
Rice 2 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Crop condition information is based upon information as of January 28th. Where crops are in less than favourable conditions the climatic drivers responsible for those conditions are displayed. The crop calendar is provided as a point of reference to provide information on what part of the life cycle the crops are currently in for each area.

Rice 3 Conditions for AMIS Countries



Rice 3 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Crop condition information is based upon information as of January 28th. Where crops are in less than favourable conditions the climatic drivers responsible for those conditions are displayed. The crop calendar is provided as a point of reference to provide information on what part of the life cycle the crops are currently in for each area.

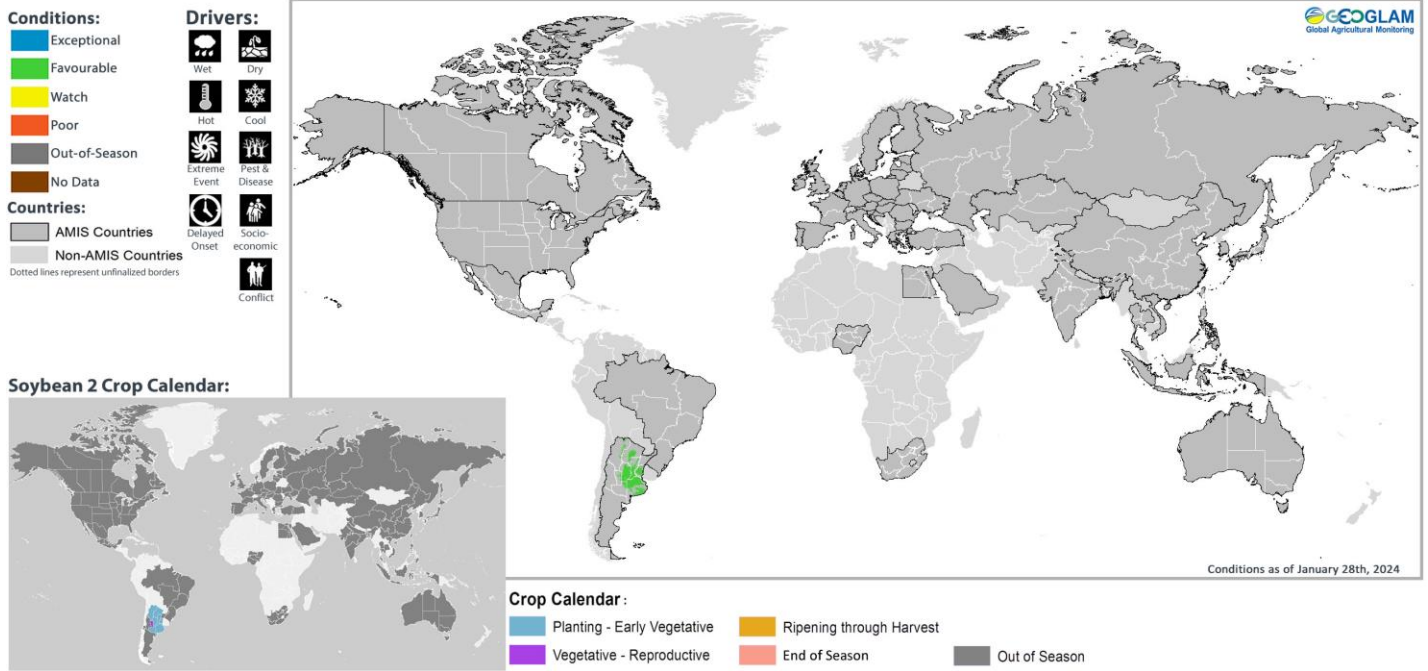
Soybean 1 Conditions for AMIS Countries



Soybean 1 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Crop condition information is based upon information as of January 28th. Where crops are in less than favourable conditions the climatic drivers responsible for those conditions are displayed. The crop calendar is provided as a point of reference to provide information on what part of the life cycle the crops are currently in for each area.

* Assessment based on information as of January 28th, 2024

Soybean 2 Conditions for AMIS Countries



Soybean 2 crop conditions over main growing areas are based upon a combination of national and regional crop analyst inputs along with earth observation data. Crop condition information is based upon information as of January 28th. Where crops are in less than favourable conditions the climatic drivers responsible for those conditions are displayed. The crop calendar is provided as a point of reference to provide information on what part of the life cycle the crops are currently in for each area.

* Assessment based on information as of January 28th, 2024



Prepared by members of the GEOGLAM Community of Practice
Coordinated by the University of Maryland with funding from NASA Harvest
Climatic Influences by Climate Hazards Center of UC Santa Barbara

The Crop Monitor is a part of GEOGLAM, a GEO global initiative.

Photo courtesy of Brian Barker

<https://cropmonitor.org/>

[@GEOCropMonitor](#)

Sources & Disclaimer

Sources and Disclaimers: The Crop Monitor assessment is conducted by GEOGLAM with inputs from the following partners (in alphabetical order): Argentina (Buenos Aires Grains Exchange, MAGyP), Asia Rice Countries (AFSIS, ASEAN+3 & Asia RiCE), Australia (ABARES & CSIRO), Brazil (CONAB & INPE), Canada (AAFC), China (CAS), EU (EC JRC MARS), Gro Intelligence, India (NCFC), Indonesia (LAPAN & MOA), International (CIMMYT, FAO GIEWS, IFPRI & IRRI), Japan (JAXA, MAFF), Mexico (SIAP), Russian Federation (IKI), South Africa (ARC & CSIR & GeoTerraImage & SANSA), Thailand (GISTDA & OAE), Ukraine (NASU-NSAU & UHMC), USA (NASA, UMD, USGS – FEWS NET, USDA (FAS, NASS)), Viet Nam (VAST & VIMHE-MARD). The findings and conclusions in this joint multiagency report are consensual statements from the GEOGLAM experts, and do not necessarily reflect those of the individual agencies represented by these experts.

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